

NICKEL-BASE ALLOY

Abstract of Disclosure

Castable and weldable nickel-base alloys that exhibit a desirable balance of strength and resistance to corrosion and oxidation suitable for gas turbine engine applications. The alloy contains, by weight, about 10% to about 25% cobalt, about 20% to about 28% chromium, about 1% to about 3% tungsten, about 1.6% to about 3.8% aluminum, about 0.4% to about 1.5% titanium, where the sum of aluminum and titanium is about 1.8% to about 5.0%, about 0.5% to about 1.5% columbium, 0.5% to about 1.5% tantalum, about 0.001% to about 0.025% boron, about 0.05% maximum zirconium, about 0.02% to about 0.15% carbon, with the balance essentially nickel and incidental impurities. The alloy may more preferably contain about 2.8% to about 3.8% aluminum where the sum of aluminum and titanium is about 3.0% to about 5.0%, or about 1.6% to about 2.8% aluminum, where the sum of aluminum and titanium is about 1.8% to about 4.3%.

Figures